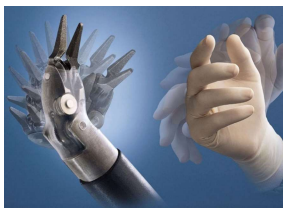
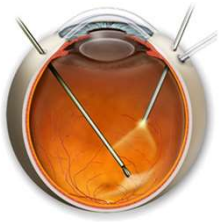
IRIS 02: Integrated Robotic Intraocular Snake

- Vitreoretinal surgery is one of the most challenging microsurgery disciplines. A tendon-driven snake micro-manipulator can provide dexterous intraocular tool motion.
- **What Students Will Do:**
  - Finalize robot actuation unit
  - Integrate robot with Phantom Omni
  - Design control algorithm for IRIS
  - Conduct experiments





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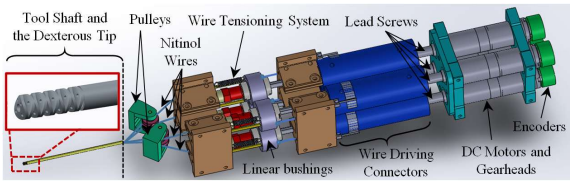
- **Deliverables:**
  - Interface the IRIS actuation unit with Phantom Omni
  - Control algorithms
  - Experimental results
- **Size group:** 2
- **Skills:**
  - Required: Good analytical skills, Programming (Matlab, C/C++), CAD
  - Desired: Control Theory, Electronics, Prototyping, Embedded Systems
- **Mentors:** Ehsan Azimi, Dr. Peter Kazanzides, Dr. Iulian Iordachita



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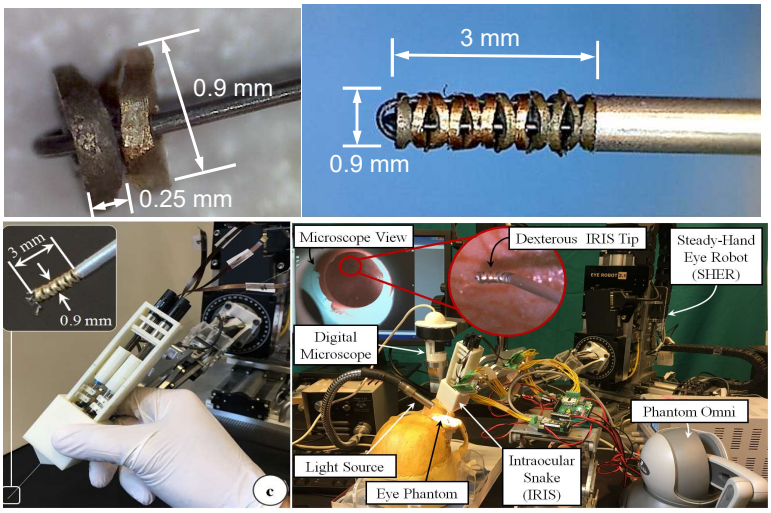
- Current status



600.446 CIS2 Spring 2017
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